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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,963	12/08/2003	Richard C. Eden	844,004-306	3664
34263	7590	06/21/2004	EXAMINER	
O'MELVENY & MEYERS 114 PACIFICA, SUITE 100 IRVINE, CA 92618			LEE, BENNY T	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 06/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



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FILED DATE

10730963

☒ This application has been examined ☐ Responsive to communication filed on \_\_\_\_\_ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire Three (3) month(s), ~~days~~ from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948.                  |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.                 | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | 6. <input type="checkbox"/> _____   |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-13 are pending in the application.  
Of the above, claims \_\_\_\_\_ are withdrawn from consideration.
2. ☐ Claims \_\_\_\_\_ have been cancelled.
3. ☐ Claims \_\_\_\_\_ are allowed.
4. ☒ Claims 1-5; 6-9, 11-13 are rejected.
5. ☒ Claims 10 ~~are~~ is objected to.
6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received  
☐ been filed in parent application, serial no. \_\_\_\_\_, filed on \_\_\_\_\_.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other \_\_\_\_\_

The disclosure is objected to because of the following informalities: Page 2, line 1, note that – so as – should follow “low for clarity of description. Page 3, line 5, note that “f” should be deleted as being unnecessary. Page 4, line 20, note that “f=” should be deleted to avoid confusion with the earlier use of “f” (i.e. for the center frequency). Page 14, line 10, note that – of figure 1a – should follow “45” for clarity of description; line 15, note that – ( $\lambda/2$ ) – should follow “one half wave-length” for consistency of description. Page 15, line 10, note that – CL – should follow “centerline” for consistency of description. Page 17, line 5, note that – a normal state conductor such as – should precede “gold” for clarity of description. Page 18, line 2, note that “in figures 3a and 3b” should correctly be – shown in figure 3a – for consistency with the subsequent description. Page 19, line 5, note that the parenthetical phrase here at should be deleted as not being proper. Page 20, lines 12, 17, note that --+--should precede each occurrence of “Vt” for consistency with the drawing figures; line 15, similarly – - -- should precede Vt for consistency with the drawing figures. Page 21, line 17, note that “The” should be rephrased as “Referring still to figure 3, the – for clarity of description. Page 22, line 13, note that “figure 2” should correctly be --figure 1a --; line 20, note “(PMMA)” should be rephrased as –poly-methyl methacrylate (PMMA)-- for clarity of description. Page 23, line 1, note that –the-- should precede “fastest” for clarity of description. Page 24, line 9, note that “(“ should be deleted as being unnecessary. Page 25, line 16, note that “From an RF/ $\mu$ W performance standpoint (unloaded Q, tuning range, etc)” should be rephrased as “For radio frequency and microwave

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applications,--; line 17, note that --(unloaded Q, tuning ranges etc) -- should follow "outstanding". Page 26, line 7, note that "AFM quality" needs strict definition.

The drawings are objected to because of the following in fig. 3a, note that -- (x, y, z) -- needs to be provided, In fig. 3b, note that -- (10, 15) -- needs to be provided. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claims 2, 5, 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 2, 5, 7, note that "the movable substrate" being a "high temperature superconductor" is not a proper characterization of the invention (i.e.. as disclosed in the specification MgO (clearly a non-super conductive material) is the preferred movable substrate material).

The following claims have been found objectionable for reasons set forth below.

In claims 1, 6, last paragraph of each claim, note that --thereby-- should precede "affecting" for clarity of description.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sochor.

Sochor discloses a tunable filter comprising a fixed substrate (10) having a first super conductive plate (100) thereon and a movable substrate (70) with a second super conductive floating plate (80) on a lower surface thereof to inherently form a capacitor gap therebetween. Moreover, as described at col. 5, ls 26-28, the tunable filter is disposed in a cryogenic vacuum environment (i.e. Dewar) thereby inherently placing the capacitor gap in a vacuum. Note that the primary reference differs from the claimed invention in terms of the driver as claimed.

However, as known to those of ordinary skill in the art, in the reference the movable element (i.e. substrate and conductive plate) obviously has to have been attached in some manner to the fixed substrate and movable to effect relative movement there between. Accordingly, this suggest that any equivalent structure can be used to effect the driver.

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The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 3, 4, 6, 8, 9, 11-13 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, 5, 6, 10, 11 of U.S. Patent No. 6662029 in view of Sochor.

Eden et al claims a tunable filter having a fixed substrate and a movable substrate where the fixed substrate has a first super conductive plate on an upper surface thereof (i.e. cl. 1) or alternatively having first and second super conductive plates on an upper surface thereof. (i.e.. cl. 6). A second (cl. 1) or floating (cl. 6) superconductive plate is disposed on a lower surface of the movable substrate. A driver has a first end thereof connected to the fixed substrate and a second end thereof connected to the movable substrate, whereby a length change of the driver changes the capacitance gap between plates of the substrates, thereby affecting the frequency response of the filter. The application claims differ from patent claims in that a vacuum is maintained in the capacitance gap, which is not recited in the patent claims.

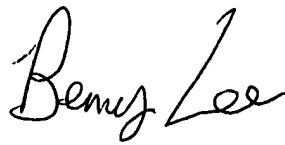
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Accordingly, it would have been obvious to have placed the claimed tunable filter of the patent into a vacuum space. Such a modification would have been obvious in view of Sochor (see col. 5 ls 26-28) which recognizes the conventional nature of placing a super conductive filter in a vacuum space.

Any inquiry concerning this communication should be directed to Benny T. Lee at telephone number (571) 272-1764.

Lee/ds

06/17/04

A handwritten signature in cursive script that reads "Benny Lee".

BENNY T. LEE  
PRIMARY EXAMINER  
ART UNIT 2817